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Towards the Development of Human Capital: Preliminary Results on a Study on Well-being Among Tertiary Students in Melaka, Malaysia

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Abstract: Economic development is intimately linked to human resource development. People who can improve themselves fast and efficiently successfully deal with life's problems and challenges, including those who are in tertiary education. Therefore, their stress level is an indicator of the well-being of our future leaders. This study investigates the various factors that can affect tertiary students' well-being. This preliminary research involves collecting data from higher education institutions in Melaka, with 191 completed responses. The findings were analyzed using frequencies, percentages, mean, standard deviation, and correlation. Findings show that 62.8% of respondents experience low stress, while 37.2% report high stress. Key stressors include time pressure, academic dissatisfaction, and subject matter issues, with financial and social factors also contributing to stress levels. However, relationships and environmental factors appear to have a lesser impact on their stress levels. Based on the correlation coefficient, stress level (dependent variable) does not relate to single variables. Most variables have a moderate correlation with the other variables. The study's findings show that tertiary students in Melaka do not experience alarmingly high levels of stress, but several factors do affect them. Therefore, well-being must be prioritized to ensure the best human capital can be created, as it represents future leaders and a skilled workforce. Recommendations are made for policy adjustments to address stress factors, providing human capital development for sustained national progress.

Keywords: *Well-being, tertiary students, development, human capital*

1. Introduction

Economic growth is essential for better living conditions, alleviating poverty, and improving access to healthcare, education, and infrastructure. It generates employment opportunities, stimulates intellectual development, and promotes technical progress, enhancing worldwide competitiveness. Furthermore, development fosters social stability, diminishes inequality, and furnishes governments with resources for public services and environmental sustainability.

Human capital development is crucial for economic progress since a skilled and well-educated labor force stimulates productivity, innovation, and economic expansion. Allocating resources to education, healthcare, and training amplifies individuals' capabilities, resulting in increased earnings, enhanced quality of life, and diminished poverty (Todaro & Smith, 2012). A strong human capital foundation not only attracts investment and enhances competitiveness but also promotes sustainable economic development, so it plays a crucial role in driving national prosperity. For that reason, many local universities also list the subject of 'Economics Development' as one of the main subjects to be studied.

Tertiary students are vital contributors to human capital development since higher education provides them with significant advanced skills, information, and expertise necessary for the labor market. The pursuit of specialized studies augments individuals' employability, productivity, and innovation potential, making a valuable contribution to economic progress (Borjas, 2010; McConnell et al., 2010). Educated graduates are crucial in driving research, entrepreneurship, and technological innovation, becoming essential resources in constructing a competitive and sustainable economy and promoting holistic societal development.

The well-being of tertiary students can impact human capital development by influencing their academic achievements, mental well-being, and general holistic welfare. High-stress levels can result in burnout, reduced productivity, and diminished knowledge retention, impeding the acquisition of crucial skills. This study aims to understand tertiary students' well-being status and the factors that contribute to their low or high levels of stress (first research objective). This study also examines the extent to which the determining factors of stress correlate to each other (second research objective).

Numerous studies in the past have discovered that students with high levels of stress are the result of a variety of factors that affect their learning, such as delaying studies and dropping out due to depression and other physical and mental health issues. However, there is a lack of studies focused on tertiary students in the state of Melaka, even though the number of tertiary students in Melaka is about 45,000 people from 41 public and private higher education institutes (State Economic Planning Unit Melaka, 2024). Therefore, the findings from this preliminary study are important to determine the direction of further research. Besides, the information obtained is very helpful for the initial action of all parties who expect human capital and the country's economic development to grow smoothly.

2. Literature review

Wellbeing can be defined as feeling healthy and happy, while stress is a condition of great worry caused by a difficult situation (Cambridge Dictionary Online, 2024a,b). Well-being is a positive state experienced by individuals and societies. Like health, it is a daily life resource determined by social, economic, and environmental conditions. (World Health Organization, 2024). Wellbeing comprises the capacity of individuals and societies to make a meaningful and purposeful contribution to society.

Ryff's Six-Factor Model of Psychological Well-Being is an extensive theory delineating six essential factors (self-acceptance, personal growth, purpose in life, environmental mastery, autonomy, and positive relations with others) that contribute to psychological health and well-being (Ryff, 1989). The intricacy of psychological well-being may support a comprehensive strategy that considers a range of aspects of the human experience. Although this theory was stated more than 35 years ago, it is still relevant and has become a source of reference for later studies.

The concepts of well-being and stress are mutually interdependent. Individuals with elevated levels of well-being, encompassing emotional, bodily, and mental health, generally exhibit greater resilience towards stress. When well-being is impaired by poor health, lack of social support, or emotional instability, stress becomes more difficult to control and more prone to result in adverse consequences such as anxiety, depression, or physical sickness (Indra et al., 2021).

Rynke Douwes et al. (2023) Found that the interaction between efforts directed toward studies and life beyond studies is a balancing factor that impacts well-being. This research added that students emphasized the interconnections between the individual experience of well-being and the influence of microsystem components, including support from and relationships with peers, family, tutors, teachers, and support facilities within the educational context.

Challenges development in study, time pressure, academic dissatisfaction, and subject matter problems are among the factors discussed by Williams et al. (2017). In addition, well-being can also be related to relationships with other individuals, which create factors such as love, social mistreatment, friendship, and family problems. Financial problems, health problems, and environmental problems are also said to interfere with the well-being of tertiary students.

Besides socio-economic and lifestyle factors, social support is a positive and critical factor for the mental health of college students (Wang et al., 2022). Similar research also adds that heavy academic burden and insufficient healthcare on mental health led to negative well-being among students. Research conducted by Beiter et al. (2015) Indicates that academic performance pressure, time management, and financial obligations influence student stress, which impairs their mental well-being. Recent research supports the notion that depression, anxiety, and stress levels are influenced by factors such as past mental health history, coping strategies, social support systems, and environmental factors (Kamruzzaman et al., 2024).

A study by Hefner & Eisenberg (2009) Emphasized that for students to be well, they need supportive families and positive relationships with others, such as friendships. Effective social networks boost life satisfaction, lessen loneliness, and offer emotional support. Consequently, balancing academic obligations, personal interests, and social life is critical in determining overall well-being. According to Misra & McKean (2000),

students who effectively manage their time and maintain a balanced lifestyle are likelier to experience improved well-being.

The statistic shows that even though there are counsellors appointed in every educational institution to help those who are dealing with stress problems, stress-related figures are still high and will be worrying if not dealt with immediately (Bouchrika, 2024). For that reason, as tertiary students are from different backgrounds, they have different experiences and different factors that affect their stress levels. As there is a lack of research on the status of well-being in tertiary students in Melaka, this study will add new literature to the research.

3. Research Methodology

This study's population involves tertiary students in Melaka, who numbered 45,071 people in May 2024 (State Economic Planning Unit, Melaka, 2024). Thus, a total of 381 students of samples were targeted based on the minimum number required (Krejcie & Morgan, 1970). This study targets tertiary students at the diploma or bachelor's degree level from public or private higher education institutions and various fields of study.

Questionnaires were distributed among tertiary students in Melaka based on a convenience sampling method. The selection of the sampling method is based on the appropriateness of getting the sample, which is distributed among lecturers and students among the respondents. This anonymous study uses the SurveyMonkey platform because of its features that facilitate the construction of question forms.

The questionnaire asked the respondents' stress status to determine their level of well-being. This study's questionnaire is adapted from the article "The Student Wellbeing Process Questionnaire (Student WPQ)" by Williams et al. (2017). Answer options for the depressed status (dependent variable) are given on a Likert scale, with a value of 1 (extremely depressed) to 10 (not at all depressed). This method provides space for students to indicate their level of pressure.

For the first research objective, this study divides the stress level into less and high stress. Students who answered 1 to 5 were assessed as high stress, while a value of 6-10 was evaluated as less stress. The same form of answer (Likert scale with 10 values) was given to the respondents to assess their respective stress levels based on the cause. However, the scale rules were changed to 1, meaning the problem does not involve them, while the value of 10 means that the problem is part of the students' lives. The purpose of changing the scale is to see how transparent the respondents are in answering the questions. Respondents' answers were analyzed using frequencies and percentages.

The next focus of this study (second research objective) is to see if the factors that cause stress are interrelated or vice versa. It is important to prove and confirm whether the previous author's research remains relevant for tertiary students in Melaka. Therefore, Pearson correlation from SPSS version 28 was used to achieve the purpose. Analysis in the form of mean values and standard deviations helps to explain more about the sample.

4. Findings

Of the 207 tertiary students who answered the questionnaire about their perception of well-being, only 191 (92.3%) answered it thoroughly. The demographic information of the respondents is as in Table 1. Compared to 24.1% of male students, 75.9% of female students answered this questionnaire. However, this is in line with the current statistics, which state that more female students are currently in higher education institutions. 54.5% of respondents are degree students, and 45.5% are diploma students. 44.0% of respondents were 18-20 years old, while the majority (2.9%) were 21-23 years old. In line with that, 69.1% of respondents are among those in year one and year 2 of the study.

Most of this questionnaire was answered by respondents in the field of Business & Management (64.9%) and among students at public higher education institutions (69.1%). Only 21.5% of respondents confirmed that they had repeated the subjects taken, compared to the others who had never repeated the subjects.

Based on Table 2, 120 respondents (62.8%) chose the Likert scale between 6 and 10, putting them in the less stressful category. Only 71 respondents (37.2%) chose a scale between 1 and 5, which puts them in the high-stress category.

Table 1: Demographic of the Respondents

Variable	Category	Total Frequency	%	Variable	Category	Total Frequency	%
Gender	Female	145	75.9	Age	18 - 20 years	84	44.0
	Male	46	24.1		21 - 23 years	101	52.9
	Total	**191**	**100.0**		24 and above	6	3.1
Study level	Degree	104	54.5		**Total**	**191**	**100.0**
	Diploma	87	45.5	Year of studying	Year 1	57	29.8
	Total	**191**	**100.0**		Year 2	75	39.3
Field of studies	Business & Management	124	64.9		Year 3	54	28.3
	Non-Business & Management	67	35.1		Year 4	5	2.6
	Total	**191**	**100.0**		**Total**	**191**	**100.0**
Institution	Public HEI	132	69.1	Have you repeated any course	Never repeat	150	78.5
	Private HEI	59	30.9		Have repeat	41	21.5
	Total	**191**	**100.0**		**Total**	**191**	**100.0**

Table 2: Stress level of tertiary students

Stress level		Less stress Frequency	%
1	Less stress	120	62.8
2	High stress	71	37.2
	Total	191	100.0

As stated in many literature reviews, many causes of stress lead to imperfect well-being for tertiary students. Thus, Table 3 shows respondents who are at high stress and those who are at low stress based on the cause of stress. The analysis is based on frequency values and percentages.

Table 3: Tertiary students' stress level by cause

Variable		Less stress		High stress	
		Frequency	%	Frequency	%
1	Challenges development in the study	56	29.3	135	**70.7**
2	Time pressure	51	26.7	140	**73.3**
3	Academic Dissatisfaction	106	**55.5**	85	44.5
4	Subject matter problem	85	44.5	106	**55.5**
5	Love problem	128	**67.0**	63	33.0
6	Social mistreatment	118	**61.8**	73	38.2
7	Friendship problem	105	**55.0**	86	45.0
8	Family problem	122	**63.9**	69	36.1
9	Financial problem	78	40.8	113	**59.2**

10	Health problem	135	**70.7**	56	29.3
11	Environmental problem	133	**69.6**	58	30.4

Based on the cause of stress, 70.7% of the respondents stated that the challenges they faced for their development in the study put them under high stress, while 73.3% stated they were under high stress due to time pressure. Academic dissatisfaction puts more than half of the respondents (55.5%) under lower stress, but subject matter issues put 55.5% of the respondents under high stress.

Because most respondents are between 18 and 23 years old and are usually still single, tertiary students are also involved in romantic relationships. However, the study's findings show that 128 tertiary students, or 67.0%, are in the less stressful category despite facing love problems. Based on the third and fourth highest percentages, the source of stress is 59.2% of respondents, who stated that their stress was due to financial issues and 55.5% due to subject matter problems.

Social mistreatment is a situation when a person feels social rejection, loneliness, or being taken advantage of by others. Table 3 shows that 118 tertiary students (61.8%) put themselves in the low-stress category based on the social mistreatment variable. Next, the variables of friendship problems, family problems, health problems, and environmental problems are in the less stressful category with percentages of 55.0%, 63.9%, 70.7%, and 69.6%, respectively. However, 59.2% of respondents stated they were stressed due to financial problems.

In parallel with the frequency and percentage values, the mean values in Table 4 also show that the variable of challenges development in the study, time pressure, subject matter problem, and financial problem show a mean value of more than 5.0. However, the highest value is at 6.54. For the other variables (academic dissatisfaction, love problems, social mistreatment, friendship problems, family problems, health problems, and environmental problems), the mean value was between 3.72 – and 4.91. With a low standard deviation value (2.24 - 3.09), it suggests that the data are closely clustered around the mean.

Table 4: Means, standard deviations, and correlations between variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Stress level	-											
2. Challenges development in study	-0.08											
3. Time pressure	-0.07	0.39 **										
4. Academic Dissatisfaction	-0.14	0.45 **	0.33 **									
5. Subject matter problem	0.14 *	0.51 **	0.48 **	0.62 **								
6. Love problem	-0.03	0.10	0.05	0.26 **	0.20 **							
7. Social mistreatment	-0.19 **	0.19 *	0.07	0.38 **	0.28 **	0.38 **						
8. Friendship problem	0.21 **	0.17 *	0.03	0.43 **	0.37 **	0.28 **	0.59 **					
9. Family problem	-0.09 **	0.13	0.09	0.24 **	0.18 *	0.39 **	0.45 **	0.47 **				
10. Financial problem	-0.08	0.39 **	0.24 **	0.22 **	0.34 **	0.26 **	0.29 **	0.31 **	0.44 **			
11. Health problem	-0.06	0.25 **	0.07	0.31 **	0.28 **	0.31 **	0.36 **	0.36 **	0.54 **	0.39 **		
12. Environmental problem	-0.08	0.42 **	0.23 **	0.48 **	0.37 **	0.25 **	0.46 **	0.43 **	0.40 **	0.33 **	0.47 **	-
Mean	6.07	6.54	6.50	4.87	5.51	3.72	4.49	4.91	4.04	5.81	3.99	4.28
Standard deviation	2.30	2.36	2.24	2.65	2.59	3.02	2.83	2.92	3.09	3.00	2.97	2.82

Note: * p<.05, ** p<.01

The Pearson correlation coefficient quantifies the linear link between two numerical or ranking variables. A coefficient of -1 signifies a perfect negative correlation, whereas a coefficient of +1 denotes a perfect positive correlation. (Saunders et al., 2009). According to Schober & Schwarte (2018)), a coefficient value of 0.00 - 0.10 indicates negligible correlation, 0.11 - 0.39 weak correlation, 0.40 - 0.69 moderate correlation, 0.70 - 0.89 strong correlation, while 0.90 - 1.00 means very strong correlation.

Table 4 indicates that the stress level (dependent variable) does not relate to single variables due to negligible (r=0.00–0.10) and weak (r=0.11-0.39) correlation coefficient. Besides, some have positive and some negative correlations with the stress level of tertiary students.

For the correlation among variables, there is a moderate correlation between time pressure and academic dissatisfaction (r=9.45) and subject matter problems (r=0.51). Academic dissatisfaction has a moderate correlation with subject matter problems (r=0.62), friendship problems (r=0.43), and environmental problems (r=0.48). Social mistreatment also has a moderate correlation with friendship problems (r=0.59), family problems (r=0.45), and environmental problems (r=0.46), while family problems show a value of r=0.44 with financial problems, r=0.54 with health problems and r=0.40 with environmental problems.

5. Conclusion

Many studies show that the causes of high stress among tertiary students are related to their learning process. Factors related to their relationship with other individuals, including the environment, do not have a high-stress effect. Thus, the findings of this study illustrate that the overall stress level of students is low and worrying. However, correlation analysis shows that the determining factor of stress level can come from various causes, which can be internal factors and external factors.

Stress levels that impact the well-being status of the tertiary student cannot be taken lightly. In addition, towards the Development of Human Capital, it is crucial to map research on well-being among university students to accurately determine their contributions and difficulties (Hernández-Torrano et al., 2020). The lack of well-being among them will destroy the hope of developing a capable human capital for developing the country's economy. For that reason, it needs to be taken care of because they are leaders, educated, and skilled workforce in the future.

Accordingly, the findings of this study contribute to the literature that tertiary students in Melaka are not exempt from facing stress. Future research should look at which factors have the greatest impact on students' stress levels. From there, policies to improve the well-being of tertiary students can be discussed more specifically.

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